



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,337	02/12/2004	Denis J. Doyle	AD-355J	4910
7590 11/02/2005				
Iandiorio & Teska 260 Bear Hill Road Waltham, MA 02451-1018			EXAMINER SOWARD, IDA M	
			ART UNIT 2822	PAPER NUMBER

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/777,337

Applicant(s)

DENIS J. DOYLE

Examiner

Ida M. Soward

Art Unit

2822

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2005.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
4a) Of the above claim(s) 31-34 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-7, 9-17, 19-24 and 26-30 is/are rejected.
7) ☒ Claim(s) 8, 18 and 25 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 08 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 02-12-2004.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to the election filed October 6, 2005.

Election/Restrictions

Applicant's election of claims 1-30 in the reply filed on October 6, 2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7, 9-17, 19-24 and 26-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Tottori (US 6,265,778 B1).

In regard to claim 1, Tottori teaches a semi-fusible link system for a multi-layer integrated circuit including active circuitry 6a,6b on a first layer 2 having a metal one layer 11 comprising: a semi-fusible link element 21 on a second layer 71 having a metal two layer 22 adapted for interconnecting with said metal one layer 11; and a

Art Unit: 2822

selector circuit 5 disposed on said first layer 2 (Figure 1, columns 5-6, lines 1-67 and 1-15, respectively).

In regard to claim 2, Tottori teaches at least one interconnection C2 coupling said metal one layer 11 with said metal two layer 22 for providing an electrical coupling between said semi-fusible link element 21 and said active circuitry 6a,6b (Figure 1, columns 5-6, lines 1-67 and 1-15, respectively).

In regard to claim 3, Tottori teaches an array of semi-fusible link elements 21,32 disposed on the second layer 71 (Figure 1, columns 5-6, lines 1-67 and 1-15, respectively).

In regard to claim 4, Tottori teaches the selector circuit 5 selecting one of the array of the semi-fusible line elements 21,32 (Figure 1, columns 5-6, lines 1-67 and 1-15, respectively).

In regard to claims 5 and 16, Tottori teaches the selector circuit 5 including a transistor 12 (Figure 1, columns 5-6, lines 1-67 and 1-15, respectively).

In regard to claim 6, Tottori teaches the selector circuit 5 including an NMOS transistor (column 5, lines 1-11).

In regard to claims 7 and 17, Tottori teaches the selector circuit 5 including an NMOS transistor (column 5, lines 1-11).

In regard to claim 9, Tottori teaches the second layer 71 located above the first layer 2 (Figure 1, columns 5-6, lines 1-67 and 1-15, respectively).

In regard to claims 10, 20 and 26, Tottori teaches the semi-fusible link 21 disposed above the active circuitry 6a,6b (Figure 1, columns 5-6, lines 1-67 and 1-15, respectively).

In regard to claims 11, 21 and 27, Tottori teaches the semi-fusible link 21 disposed above the active circuitry 6a,6b and the selector circuit 5 (Figure 1, columns 5-6, lines 1-67 and 1-15, respectively).

In regard to claims 12-13, 22-23 and 28-29, claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function, *In re Danly*, 263, F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). Apparatus claims cover what a device is, not what a device does. *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990).

In regard to claims 14 and 19, Tottori teaches the semi-fusible link 21 including a thin film resistor (21 center) (Figure 1, columns 5-6, lines 1-67 and 1-15, respectively).

In regard to claim 15, Tottori teaches a semi-fusible link system for a multi-layer integrated circuit including active circuitry 6a,6b on a first layer 2 having a metal one layer 11, comprising: a semi-fusible link element 21 on a second layer 71 having a metal two layer 22 adapted for interconnecting with said metal one layer 11, said second layer 71 being above said first layer 2; at least one interconnection C2 coupling said metal one layer 11 with said metal two layer 22 for providing an electrical coupling between said semi-fusible link element 21 and said active circuitry 6a,6b, and a selector circuit 5 disposed on said first layer 2 (Figure 1, columns 5-6, lines 1-67 and 1-15, respectively).

In regard to claim 24, Tottori teaches a semi-fusible link system for a multi-layer integrated circuit including active circuitry 6a,6b on a first layer 2 having a metal one layer 11, comprising: a thin film resistor semi-fusible link element (21 center) on a second layer 71 having a metal two layer 22 adapted for interconnecting with said metal one layer 11, said second layer 71 being above said first layer 2; at least one interconnection C2 coupling said metal one layer 11 to said metal two layer 22 for providing an electrical coupling between said semi-fusible link element (21 center) and said active circuitry 6a,6b, and a selector circuit 5 including a select transistor 12 disposed on said first layer 2 (Figure 1, columns 5-6, lines 1-67 and 1-15, respectively).

In regard to claim 30, Tottori teaches a semi-fusible link system for a multi-layer integrated circuit including active circuitry 6a,6b on a first layer 2 having a metal one layer 11 comprising: a semi-fusible link element 21 on a second layer 71 having a metal two layer 22 adapted for interconnecting with said metal one layer 11; and a selector circuit 5 disposed on said first layer 2 (Figure 1, columns 5-6, lines 1-67 and 1-15, respectively).

In regard to claim 30 concerning the limitation "one of said active circuitry and said selector circuit for blowing said semi-fusible link element to effect a change in a parameter in said integrated circuit", claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function, *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). Apparatus claims cover what a device is, not what a device does. *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990).

Allowable Subject Matter

Claims 8, 18 and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to semi-fusible link systems:

Corrigan (US 2004/0201098 A1)

Hsieh (US 2005/0156275 A1)

Sakamoto et al. (US 2004/0094840 A1)

Yoshioka (US 2004/0031004 A1).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ida M. Soward whose telephone number is 571-272-1845. The examiner can normally be reached on Monday - Thursday 6:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on 571-272-1852. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2822

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

IMS

October 31, 2005

John M. Sorenson
AU 2822